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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/817,074

03/26/2001

Masahiro Saitoh

FUJA 18.529

9838

26304

7590

05/24/2004

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EXAMINER

DO, CHAT C

ART UNIT

PAPER NUMBER

2124

4

DATE MAILED: 05/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/817,074

Applicant(s)

SAITOH ET AL.

Examiner

Chat C. Do

Art Unit

2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03/26/01; 11/27/02.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 4-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-3 are examining.
2. Claims 4-16 are withdrawn from consideration.

Election/Restrictions

3. This application contains claims directed to the following patentably distinct species of the claimed invention:

- a. Species I: Claims 1-3 dawn to a first portion of invention as seen in Figure 1 wherein the processing mask selects either a processed data or non-processed data accordingly to output.
- b. Species II: Claims 4-7 dawn to a second portion of invention as seen in Figure 2 wherein the carry mask selects either a processed carry-out or empty accordingly to a next ALU.
- c. Species III: Claims 8-10 dawn to a modification of the second portion of invention as seen in Figure 3 wherein the carry distribution selects a processed carry-in from multiple carry-out(s) accordingly to ALUs.
- d. Species IV: Claim 11 dawns to third portion of invention as seen in Figure 5 wherein a bit switch unit is used.
- e. Species V: Claims 12-14 dawn to fourth portion of invention as seen in Figure 6 a transfer carry control unit is used to transfer propagated carry across subprocessors.

Art Unit: 2124

- f. Species VI: Claims 15-16 dawn to an embodiment as seen in Figure 16 wherein a scheduler manages the operation of all subprocessors.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, there is no generic claim.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

4. During a telephone conversation with Samson Helfgott on 05/04/2004 a provisional election was made without traverse to prosecute the invention of Species I, claims 1-3.

Art Unit: 2124

Affirmation of this election must be made by applicant in replying to this Office action. Claims 4-16 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Specification

6. The disclosure is objected to because of the following informalities:

The acronym "LSI" is stated throughout specification without either defined or written in full.

Appropriate correction is required.

Claim Objections

7. Claim 1 is objected to because of the following informalities:

Re claim 1, limitations "the above data" in line 8 and "the above designation" in line 9 should be re-written as "the data" and "the designation" respectively because they are already mentioned in previous lines within the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claim 1, it is mis-descriptive by the limitation “a processing mask control unit for designating bits for dividing the data in each word to data to be processed and other data not to be processed” in lines 7-8. For examination purposes, the examiner considers the limitation as “a processing mask control unit for selectively designating bits in the word unit as data to be processed and other data not to be processed”. The limitations “the function” in line 11 and “the related bits” in line 12 lack antecedence basis. For examination purposes, the examiner considers these limitations as “a function” and “related bits” respectively. In addition, it is unclear by the limitation “an arithmetic and logic unit” whether or not it is referred to or same as the arithmetic and logic units cited in line 2. For examination purposes, the examiner considers the limitation as “the arithmetic and logic unit” that is cited in line 2. Finally, the limitation “an output select unit...the above data to be processed” is unclear because the claim, nor specification, nor the drawing clearly disclose how the output select unit can validate/check/confirm a function of processing by an arithmetic and logic unit. Figure 1 discloses an output select unit consisting of a plurality of selectors/multiplexer that selects a plurality of output

according to the processing mask control. For examination purposes, the examiner considers the cited limitations "an output select unit...with the related bits" in lines 10-18 as an output select unit comprising a plurality of selectors for selecting either outputs of the arithmetic and logic units or the data not to be processed according to the control generated from the processing mask register.

Thus, claims 2-3 are also rejected for being dependent on the rejected base claim 1.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Guttag et al. (U.S. 6,032,170).

Re claim 1, Guttag et al. disclose in Figure 7 a processor for processing variable length data (abstract and col. 22 lines 49-50) including a plurality of arithmetic and logic units (301-304) for processing data for every bit in a word unit (bits 0-31 or 32 bits word and carry inputs), provided with a processing mask control unit (col. 22 lines 64-68 as CONTROL signals input to the mux(es) 311-314) for designating bits for dividing the data in each word to data to be processed (e.g. bits 0-7 in 301) and other data not to be

processed (carry look ahead from 246 to 311 bypass 301) and an output select unit (311-314) for selectively validating the function of processing by an arithmetic and logic unit in correspondence with the related bits for the above data to be processed and fetching results of the processing according to the above designation of bits by the processing mask control unit and the function of passing the data not to be processed through an arithmetic and logic unit correspondence with the related bits (an output select unit (311-314) comprising a plurality of selectors (mux(es)) for selecting either outputs of the arithmetic and logic units (output of 301-304) or the data not to be processed (carry look ahead) according to the control generated (CONTROL) from the processing mask register).

Re claim 2, Guttag et al. further disclose in Figure 7 a processor for processing variable length data as set forth in claim 1, wherein processing mask control unit has a processing mask register for storing a logic 1 or 0 for designating whether each bit in each word is a bit to be processed or a bit not to be processed in correspondence with each bit (e.g. col. 23 lines 1-5).

Re claim 3, Guttag et al. further disclose in Figure 7 the output select unit (multiplexors 311-314) is comprised of output selectors (311-314) receiving as input both the result of processing from arithmetic and logic unit (output of 301-304 going to mux) and data not to be processed (carry look ahead) passed through the arithmetic and logic unit, in correspondence with each bit, selecting one of the above result (by the mux 311-314) and the above data, and outputting (output of mux 311-314) the selected one and

where each output selector performs the selection according to logic 1 or 0 from processing mask register (e.g. col. 23 lines 1-5).

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. U.S. Patent No. 5,555,202 to Chu discloses a low-power, high-performance barrel shifter.
- b. U.S. Patent No. 4,789,957 to Niehaus et al. disclose a status output for a bit slice ALU.
- c. U.S. Patent No. 5,390,135 to Lee et al. disclose a parallel shift and add circuit and method.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (703) 305-5655. The examiner can normally be reached on M => F from 7:00 AM to 4:30 PM.

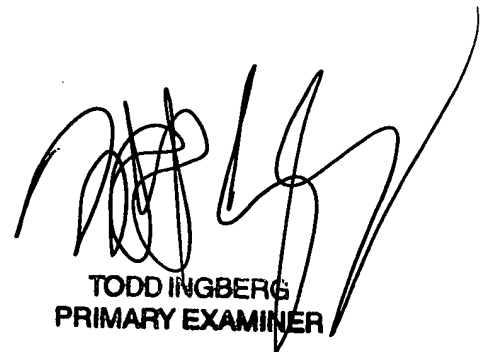
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chaki Kakali can be reached on (703) 305-9662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2124

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chat C. Do
Examiner
Art Unit 2124

May 11, 2004



TODD INGBERG
PRIMARY EXAMINER